



CM 101

A Basic Introduction



TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

Joseph Herman, Jr.

TARDEC CM Team

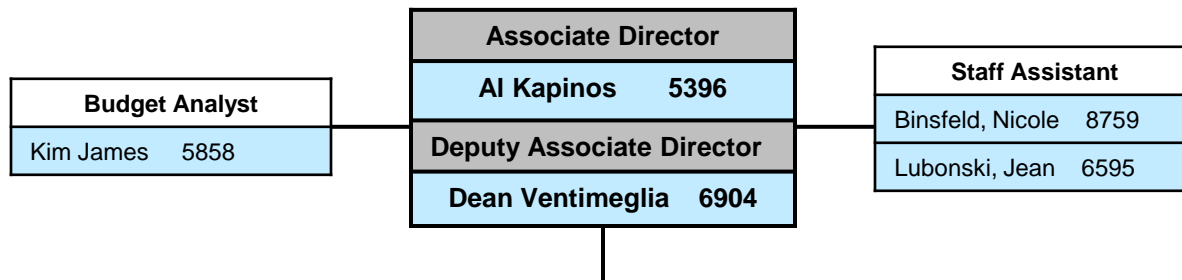
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PLDM Business Area Configuration Management Team



586-282-XXXX

Configuration Management			
Akhil Mahendra – TL (5854)			
Darnell, Nancy	5372	Larson, Sara	2913
Herman, Joseph (Jr.)	7534	Lam, Daniel	2867
De Armit, William	6561	Petrusevski, Steve	6904
Dupke, Linda	6501	Garcia, Elisia	2908
Hofmann, Cary (Jr.)	6139	Kane, John	2907
Hoover, John	5242	Zalewski, Richard	
Kendall, William	6512	Foster, Jason	0169
Mann, Clarice	6579	Hayes, Chanell	2992
Martinez, Delfino (Jr.)	6579	Steele, Deborah,	8748
Miller, Eric	8777	Vacant (MRAP)	
Niemyjski, Cecilia	5036	Vacant (MRAP)	
Olson, Leif	5701	Vacant (MRAP)	
Prince-Coleman, Shea	6512	Vacant (MRAP)	
Vidro, Lisa	2547		
Walker, David J.	6897		

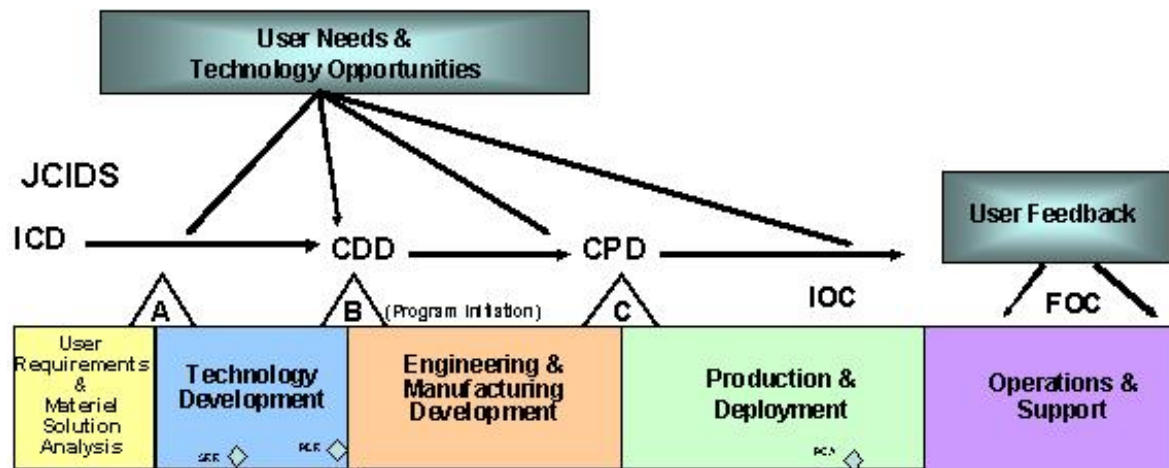
MRAP Support (Bldg 229)

ASV Support (Bldg 230)

Contractor Support

24 Feb 2011

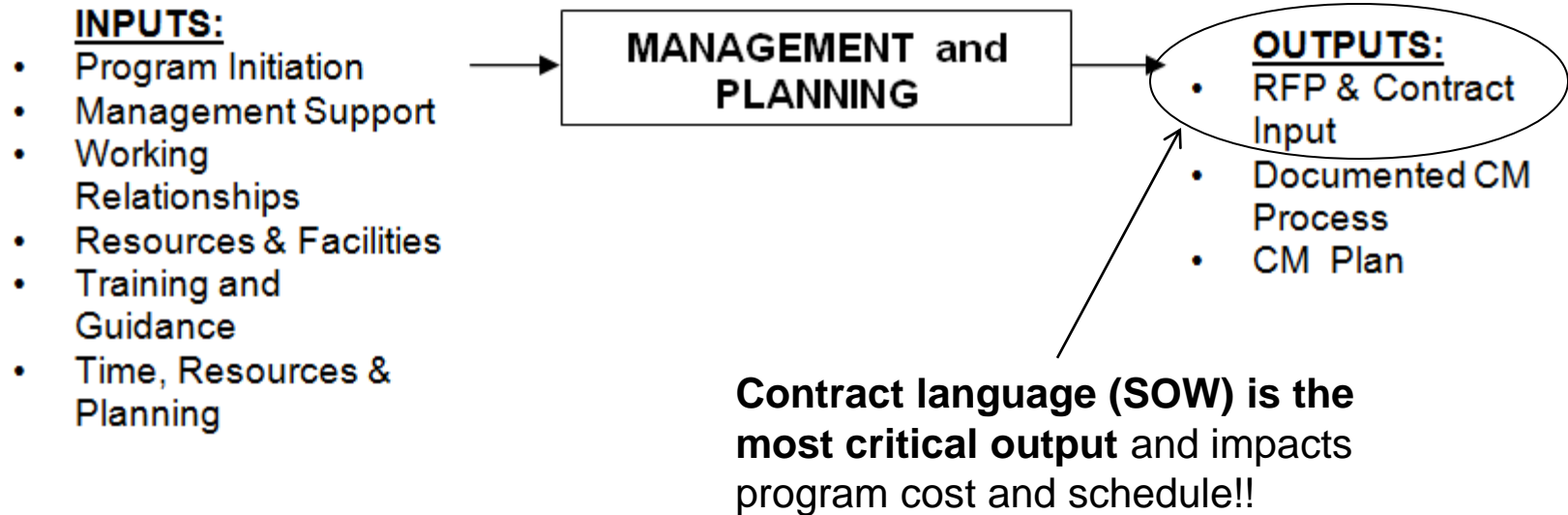
A *process* for establishing and maintaining consistency of a product's performance, functional and physical attributes with its requirements, design and operational information *throughout its life*.



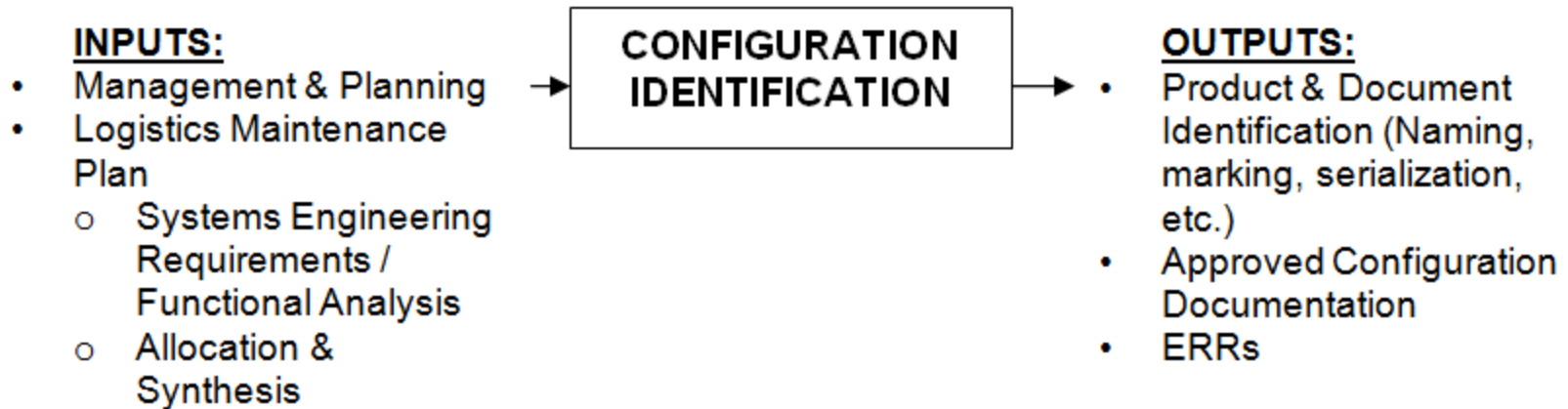
- Management & planning
- Configuration identification
- Configuration Status Accounting (CSA)
- Configuration verification & audits
- Configuration control
- Digital data management



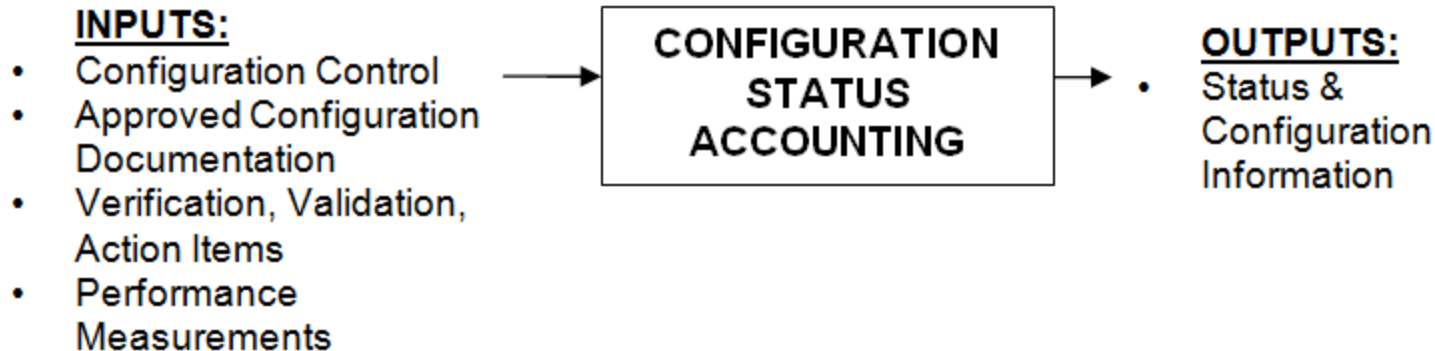
- A continuous task
- Synchronized with the Acquisition Strategy, System Engineering and Logistical Planning
- Implies a defined CM Process and the use of CM Process metrics



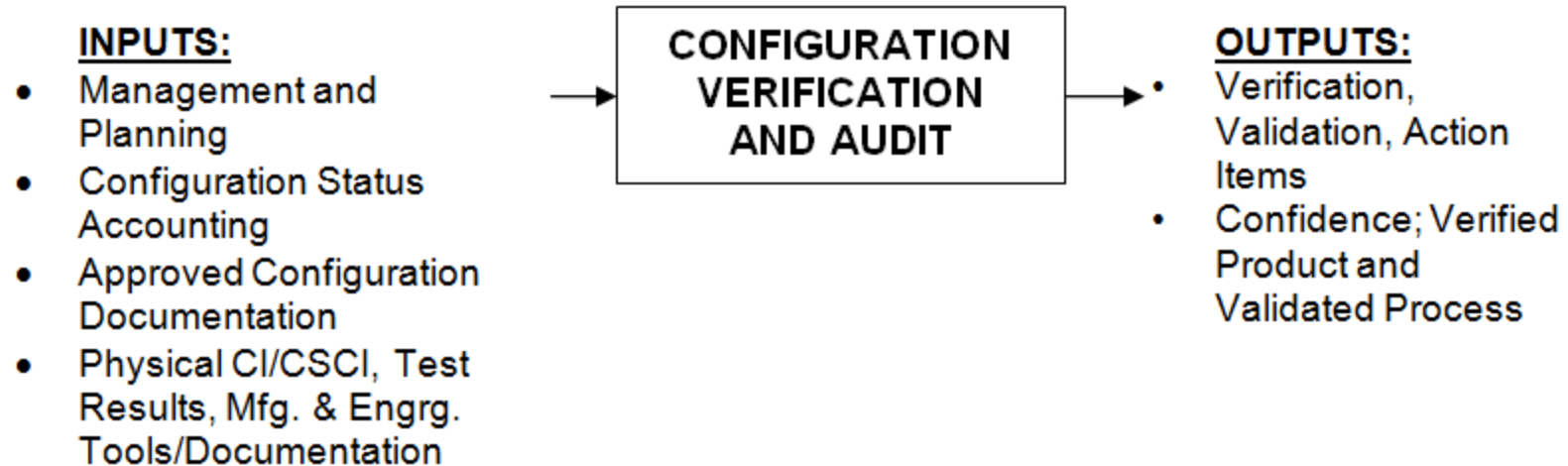
- The Performing Activity selects items for management
- Must have unique identification of products and documents
- Is driven by acquisition & support planning
- May use the Product Work Breakdown Structure to assist in identifying top-level items



- Provides a listing of baselines
- Provides the status of changes & audits
- Ensures all use the same design and documentation
- Defines and populates a database of products and associated documentation



- Does product meet requirements?
- Does documentation match product?
- Two primary types of audits
 - Functional Configuration Audit (FCA)
 - Physical Configuration Audits (PCA)



Functional Configuration Audit (FCA):

- Used to verify that the planned performance of the CI meets the requirements stated in its performance specification
- Basically checking performance

Physical Configuration Audits (PCA):

- Used to examine the actual configuration of the CI that is representative of the product configuration
- Lead to the establishment of a Product Baseline
- A PCA involves:
 - Checking drawings against IBOM
 - Verifying that part(s) depicted on drawing are a part of the vehicle
 - Comparing production parts against drawings

The Product Baseline is the approved technical documentation which describes the CI configuration during the production, fielding/deployment and operational support phases of its life cycle!

- Uses a systematic process to identify, document, justify, evaluate, approve, incorporate and verify **changes**
 - The Configuration Control Authority (CCA) controls the product
 - The Current Document Change Authority (CDCA) controls the documentation
 - An Application Activity (AA) uses the product or documentation

- INPUTS:**
- Configuration Identification
 - Need for Change
 - ECPs, RFDs
 - Contractual Provisions



- OUTPUTS:**
- Change identification, Documentation & Disposition
 - Approved ECPs, RFDs & Implementing Direction / Authorization

- Current policy, business practice and information technology supports digital data
- The former preference for the Government to buy access to digital data, rather than have delivery of data, has changed

A best practice is to have an Integrated Data Environment (IDE)

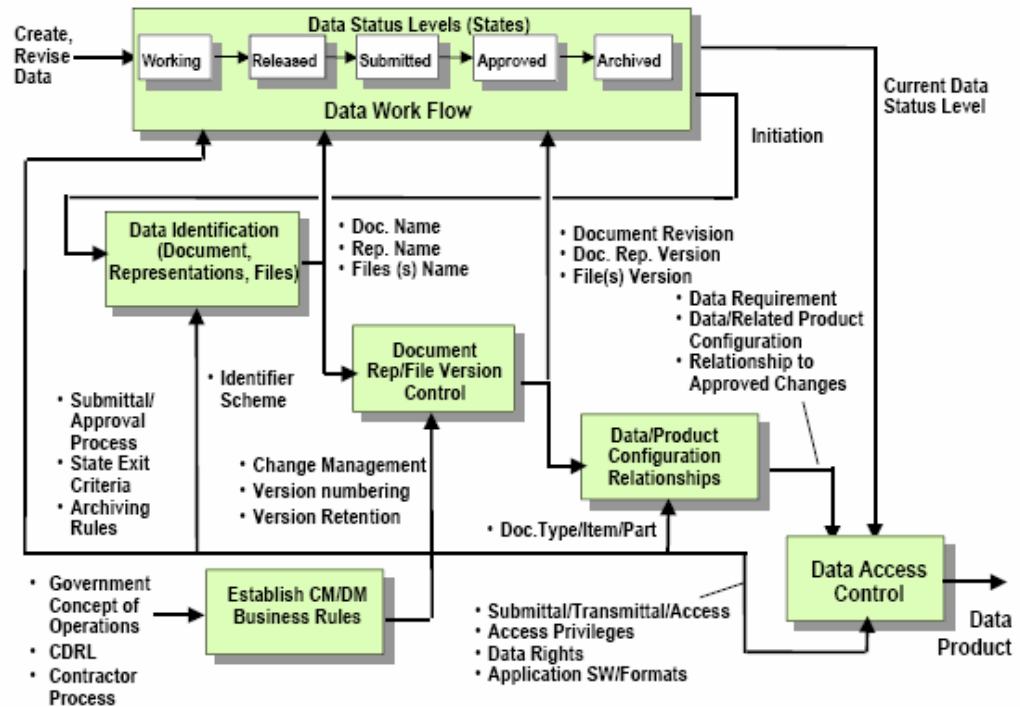


Figure 9-1. CM Related Data Management Activity Model

Why perform CM?

- Buyers and sellers have a common basis for the product's acquisition and use
- Decisions are based on accurate and current information
- Enhanced production repeatability for parts
- Applicable data is readily available, avoiding guesswork and trial and error, costly errors of ad hoc, erratic change management and downstream surprises, leading to cost and schedule savings
- Verification and recording of changes are incorporated into the product
- Establishment and maintenance of a high level of confidence in the product information

Without CM:

- Schedule delays and costs for changes
- Mismatch with support assets
- Equipment inconsistent with maintenance instructions; equipment failures

Given the numerous benefits of CM, here are the next steps in implementing Configuration Management practices:

1. Ensure that CM-related language is incorporated into the contract**
 - Contact the CM team for Statement of Work (SOW) development
 - CM team will create a SOW tailored to the program
2. Enforce the contract to ensure receipt of deliverables
3. Work with the CM team to setup configuration control boards, data management training, etc.

**** The contract documentation (SOW & CDRLs) is the MOST CRITICAL piece in the CM process**

- It stipulates everything that will occur after the contract is signed
- If its not in the SOW, it will cost more to add it at a later stage

- MIL-HDBK-61A: Configuration Management Guidance
- MIL-STD-31000: DoD Standard Practice -Technical Data Packages
- EIA-649A: National Consensus Standard for Configuration Management
- MIL-STD-974: Contractor Integrated Technical Information Services (CITIS)



POCs



Mr. Alan J. Kapinos

Associate Director of Product Lifecycle Data Management

Work Phone: 586.282.5396

Email: al.j.kapinos@us.army.mil

Mr. Joseph Herman

CM Team-Sr Project Engineer

Work Phone: 586.282.7534

Email: joseph.a.herman8@mail.mil

